

Jordanelle Damsite gets go ahead from Gov.'s Consultants

Three independent consultants told the bureau of Reclamation today that it appears a safe embankment dam could be built at the proposed Jordanelle damsite on the Provo River 6 miles north of Heber, Utah.

"The consultants' opinion confirms Reclamation's; that, from what we know now, the proposed Jordanelle Dam is geologically practical and safe," said Clifford K. Barrett, Director of the Bureau's Upper Colorado Region based in Salt Lake City.

"But there still are other questions to be resolved before construction can begin," Barrett said. "For instance, we must gain assurance that the Central Utah Water Conservancy District will repay the Federal investment, possibly as much as \$350 million; that groundwater problems related to the reservoir can be managed; and that a multitude of institutional concerns are resolved."

"We have, however, moved one more step forward," Barrett said.

The Utah State Engineer, Deehanse, agreed. "Although we now know a safe structure can be designed for the site," he said, "the State, the Bureau, county governments and industry are working together on the other problems and, when resolved, we then can start looking toward a final decision on the Jordanelle Dam and Reservoir."

The consultants, selected by the Bureau and the State Engineer's Office, submitted a formal report to the two water-development agencies today. The consultants are Dr. Richard H. Jahns, Dr. Ralph B. Peck, and Dr. Walter J. Arabasz, all recognized as earth-science authorities.

Jordanelle Dam and Reservoir would be key features of the Bonneville Unit of the \$1.2 billion Central Utah Project and would store needed water for use in the Salt Lake City area.

The consultants told the Bureau:

--"So far as factors of engineering geology are concerned, we regard the Jordanelle Damsite as suitable for construction of an appropriately designed embankment dam, provided that investigations yet to be made do not yield new information that is unexpectedly unfavorable."

--Designers must consider the possibility of seismic movement in their design process. "A maximum credible displacement of 3 meters in the dam foundation can

be accommodated by conventional defensive measures in the dam design." Seismic movement of this magnitude is extremely unlikely.

"We are not firmly establishing 3 meters as the maximum credible displacement," the consultants said. "We are, however, stating our expectation that this value will likely represent a defensible upper limit, one that may be reduced by additional data and more compelling logic."

The dam has been planned as an earth-embankment structure, 292 feet high and 2,480 feet in length across the Provo River about a mile south of the intersection of U.S. 40 and U.S. 189, Hailstone Junction. Jordanelle Dam would create a reservoir reaching 4 miles up the river and 4 miles up Drain Tunnel and Ross creeks to the west. The reservoir would have a capacity of 320,000 acre-feet of water at an elevation of 6,165 feet above sea level.

Reclamation engineers have been drilling and testing materials from the damsite since before 1981 in a program designed to provide a detailed understanding of the rock formations that would cradle the dam.

All of the data obtained during

the investigation was made available to the three consultants, and was supplemented by information provided by mining interests

and the State Engineer's Office.

In addition, geologic mapping and measuring the natural flow of underground water have required an extensive amount of drilling over a 24-month period. A total of 80 holes have been drilled at the damsite and 35 in the reservoir basin, each providing samples of rock and needed information. Information gained from these studies also will help determine if standing water in the reservoir would seep into mine shafts west of the reservoir site.

"In terms of the Wasatch Hinterland," the consultants said, "Bureau geologists are clearly in the forefront of efforts to establish a quantitative understanding of that area's neotectonic deformation. Indeed, the Bureau's strategic decision to adopt both a regional and a site-specific exploration approach for evaluating the seismotectonics of the Jordanelle Damsite was crucial to this review and has provided some of the best information yet available for evaluating earthquake hazard and risk in the back valleys."